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WUDDARD SPACE FLIGHT CENTER

GREENBELT, MD.

SEPTEMBER 15, 1965

VOL. 5, NO. 17

SATELLITE SITUATION REPORT

SPACE OPERATIONS CONTROL CENTER

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SPACE OPERATIONS CONTROL CENTER
GODDARD SPACE FLIGHT CENTER
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VOLUME 5, NO. 17

SEPTEMBER 15, 1965

SATELLITE SITUATION REPORT

THE FOLLOWING REPORT REFLECTS DATA COMPUTED AND COMPILED
BY THE GODDARD SPACE FLIGHT CENTER, NORAD, AND SMITHSONIAN
ASTROPHYSICAL OBSERVATORY AS OF 1200Z ON SEPTEMBER 15, 1965.

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1958 LAUNCHES									
ALPHA 1	EXPLORER 1	004	US	1 FEB	104.0	33.18	1553	341	
BETA 1	ROCKET BODY	016	US	17 MAR	138.4	34.27	4319	649	
BETA 2	VANGUARD 1	005	US	17 MAR	134.0	34.25	3940	649	
BETA 3		1576	US	17 MAR	132.7	34.21	3817	662	
1959 LAUNCHES									
ALPHA 1	VANGUARD 2	011	US	17 FEB	125.4	32.88	3281	559	
ALPHA 2	ROCKET BODY	012	US	17 FEB	129.7	32.89	3656	556	
ETA 1	VANGUARD 3	020	US	18 SEP	129.8	33.34	3716	511	
MU 1	LUNIK 1	112	USSR	2 JAN	HELIOCENTRIC ORBIT				
NU 1	PIONEER 4	113	US	3 MAR	HELIOCENTRIC ORBIT				
IOTA 1	EXPLORER 7	022	US	13 OCT	101.1	50.33	1073	551	
IOTA 2	ROCKET BODY	023	US	13 OCT	100.9	50.34	1053	548	
1960 LAUNCHES									
ALPHA 1	PIONEER 5	027	US	11 MAR	HELIOCENTRIC ORBIT				
BETA 1	ROCKET BODY	028	US	1 APR	99.1	48.40	744	687	
BETA 2	TIROS 1	029	US	1 APR	99.2	48.41	748	691	
BETA 3	NONE	101	US	1 APR	97.9	48.50	593	619	
BETA 4	NONE	115	US	1 APR	99.9	48.16	805	700	
GAMMA 2	TRANSIT 1B	031	US	13 APR	93.6	51.24	556	346	
GAMMA 4	NONE	099	US	13 APR	96.7	51.26	727	474	
EPSILON 3	NONE	036	USSR	15 MAY	89.3	64.97	272	203	
LETA 1	MIDAS 2	043	US	24 MAY	94.3	33.03	492	472	
ETA 1	TRANSIT 2A	045	US	22 JUN	101.6	66.70	1058	613	
ETA 2	GREB	046	US	22 JUN	101.6	66.75	1058	610	
ETA 3	ROCKET BODY	047	US	22 JUN	101.4	66.70	1042	609	
ETA 4		840	US	22 JUN	101.5	66.76	1056	608	
ETA 5		841	US	22 JUN	101.5	66.71	1054	606	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL- NATION	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1960 LAUNCHES (CONT'D)								
IOTA 1	ECHO 1	049	US	12 AUG	113.5	47.23	1676	1096
IOTA 2	ROCKET BODY	050	US	12 AUG	118.1	47.26	1686	1500
IOTA 3	METAL OBJECT	051	US	12 AUG	118.2	47.26	1689	1514
IOTA 4	METAL OBJECT	052	US	12 AUG	CURRENT ELEMENTS NOT MAINTAINED			
IOTA 5	METAL OBJECT	053	US	12 AUG	118.4	47.34	1683	1538
NU 1	COURIER 1B	058	US	4 OCT	107.0	28.32	1212	963
NU 2	ROCKET BODY	059	US	4 OCT	106.6	28.21	1203	928
XI 1	EXPLORER 8	060	US	3 NOV	112.3	49.95	2242	418
XI 2	ROCKET BODY	062	US	3 NOV	111.8	50.01	2199	416
XI 3	NONE	069	US	3 NOV	108.8	49.38	1946	395
XI 4	NONE	105	US	3 NOV	110.2	50.52	2050	423
PI 1	TIROS 2	063	US	23 NOV	98.2	48.56	728	619
PI 2	ROCKET BODY	064	US	23 NOV	98.1	48.53	720	614
PI 3	NONE	074	US	23 NOV	98.1	48.52	720	619
PI 4	NONE	075	US	23 NOV	98.3	48.51	729	624
1961 LAUNCHES								
ALPHA 1	SAMOS 2	070	US	31 JAN	94.7	97.38	542	467
ALPHA 2	METAL OBJECT	079	US	31 JAN	94.6	97.40	538	463
GAMMA 1	VENUS PROBE	080	USSR	12 FEB	HELIOCENTRIC ORBIT			
DELTA 2	ROCKET BODY	082	US	16 FEB	118.5	38.83	2586	640
DELTA 3	NONE	085	US	16 FEB	CURRENT ELEMENTS NOT MAINTAINED			
KAPPA 1	EXPLORER 10	098	US	25 MAR	POSITION UNCERTAIN			
NU 1	EXPLORER 11	107	US	27 APR	107.9	28.74	1771	488
OMICRON 1	TRANSIT 4A	116	US	29 JUN	103.8	66.83	1004	875
OMICRON 2	INJUN-SR-3	117	US	29 JUN	103.8	66.83	1002	878
OMICRON 3-208**	METAL OBJECTS		US	29 JUN				
RHO 1	TIROS 3	162	US	12 JUL	100.4	47.90	816	739
								\$54\$324\$150\$400

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)	
1961 LAUNCHES (CONT'D)										
RHO 2	ROCKET BODY	165	US	12 JUL	100.3	47.90	805	742		
RRHO 3	METAL OBJECT	166	US	12 JUL	98.8	47.89	788	617		
RRHO 4	METAL OBJECT	167	US	12 JUL	102.0	47.89	930	775		
SIGMA 1	MIDAS 3	163	US	12 JUL	161.5	91.31	3514	3377		
SIGMA 3	METAL OBJECT	188	US	12 JUL	161.2	91.17	3536	3336		
SIGMA 4	METAL OBJECT	196	US	12 JUL	161.9	91.23	3574	3350		
UPSILON 1	EXPLORER 12	170	US	16 AUG	CURRENT ELEMENTS NOT MAINTAINED					
A DELTA 1	MIDAS 4	192	US	21 OCT	166.0	95.95	3754	3499		
A DELTA 3	METAL OBJECT	194	US	21 OCT	165.6	95.84	3742	3479		
A DELTA 4	METAL OBJECT	195	US	21 OCT	166.4	95.85	3802	3484		
A ETA 1	TRANSIT 4B	202	US	15 NOV	105.8	32.42	1111	948		
A ETA 2	TRAAC	205	US	15 NOV	105.8	32.42	1108	953		
A ETA 3	ROCKET BODY	204	US	15 NOV	105.6	32.42	1093	953		
1962 LAUNCHES										
ALPHA 1	RANGER 3	221	US	26 JAN	HELIOCENTRIC ORBIT					
ALPHA 2	ROCKET BODY	222	US	26 JAN	HELIOCENTRIC ORBIT					
BETA 1	TIROS 4	226	US	8 FEB	100.4	48.31	844	707		
BETA 2	ROCKET BODY	227	US	8 FEB	101.4	48.14	942	702		
BETA 3	METAL OBJECT	228	US	8 FEB	99.5	48.40	762	703		
BETA 4	METAL OBJECT	229	US	8 FEB	100.3	48.31	833	711		
ZETA 1	ORB.SOL.OBS.1	255	US	7 MAR	96.0	32.83	585	548		
ZETA 2	ROCKET BODY	257	US	7 MAR	96.0	32.83	584	546		
KAPPA 1		271	US	9 APR	153.0	86.69	3403	2794		
KAPPA 3		273	US	9 APR	152.6	86.79	3387	2779		
KAPPA 4		274	US	9 APR	153.3	85.69	3421	2804		
MU 2	ROCKET BODY	282	US	23 APR	HELIOCENTRIC ORBIT					
OMICRON 1	ARIEL 1	285	US/UK	26 APR	100.4	53.94	1170	385	136.405	
OMICRON 2	ROCKET BODY	288	US	26 APR	100.3	53.94	1154	388		

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)	
1962 LAUNCHES (CONT'D)										
A ALPHA 1	TIROS 5	309	US	19 JUN	100.5	58.14	971	591	\$136.591\$136.078	
A ALPHA 2	ROCKET BODY	311	US	19 JUN	100.4	58.14	961	591		
A ALPHA 3	METAL OBJECT	312	US	19 JUN	101.7	58.21	1087	595		
A ALPHA 4	METAL OBJECT	313	US	19 JUN	99.1	58.00	851	580		
A EPSILON 1	TELSTAR 1	340	US	10 JUL	157.8	44.79	5647	941		
A EPSILON 2	ROCKET BODY	341	US	10 JUL	157.6	44.80	5533	941		
A OMICRON 1		369	US	23 AUG	99.5	98.69	855	619		
A OMICRON 2		370	US	23 AUG	98.2	98.63	750	600		
A OMICRON 3		378	US	23 AUG	100.8	98.75	967	627		
A OMICRON 4		388	US	23 AUG	99.5	98.70	858	615		
A RHO 1	MARINER 2	374	US	27 AUG	HELIOCENTRIC ORBIT					
A RHO 2	ROCKET BODY	375	US	27 AUG	HELIOCENTRIC ORBIT					
A PSI 1	TIROS 6	397	US	18 SEP	98.7	58.35	713	686		
A PSI 2	ROCKET BODY	398	US	18 SEP	98.7	58.36	709	680		
A PSI 3	METAL OBJECT	399	US	18 SEP	99.4	58.43	768	690		
A PSI 4	METAL OBJECT	400	US	18 SEP	98.0	58.20	687	642		
B ALPHA 1	ALOUETTE	424	CANADA	29 SEP	105.5	80.48	1037	999		
B ALPHA 2	ROCKET BODY	426	US	29 SEP	105.4	80.49	1030	1001		
B ALPHA 3	METAL OBJECT	510	US	29 SEP	105.4	80.52	1021	1004		
B ALPHA 4	METAL OBJECT	511	US	29 SEP	105.5	80.45	1040	996		
B GAMMA 1	EXPLORER 14	432	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED					
B GAMMA 2#	ROCKET BODY	NNA	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED					
B ETA 1	RANGER 5	439	US	18 OCT	HELIOCENTRIC ORBIT					
B ETA 2	ROCKET BODY	440	US	18 OCT	HELIOCENTRIC ORBIT					
B KAPPA 1		444	US	27 OCT	124.7	71.29	3581	195		
B LAMBDA 1	EXPLORER 15	445	US	27 OCT	311.5	18.04	17376	307		
B LAMBDA 2#	ROCKET BODY	NNA	US	27 OCT	INSUFFICIENT OBSERVATIONS					
B MU 1	ANNA 1B	446	US	31 OCT	107.9	50.15	1183	1077	\$162\$324	

\$136.591\$136.078

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>	
1962 LAUNCHES (CONT'D)										
B MU 2	ROCKET BODY	447	US	31 OCT	107.6	50.22	1171	1062	\$136.140;136.621	
B NU 3		450	USSR	1 NOV	HELIOCENTRIC ORBIT					
B TAU 1		502	US	13 DEC	105.1	70.36	1775	223		
B TAU 2		504	US	13 DEC	110.5	70.32	2261	238		
B TAU 4	INJUN 3	508	US	13 DEC	96.9	70.31	998	213		
B TAU 5		513	US	13 DEC	105.0	70.30	1753	228		
B TAU 6		520	US	13 DEC	109.4	70.29	2160	240		
B UPSILON 1	RELAY 1	503	US	13 DEC	185.1	47.46	7480	1278		
B UPSILON 2	ROCKET BODY	515	US	13 DEC	184.8	47.53	7423	1318		
B CHI 1	EXPLORER 16	506	US	16 DEC	104.4	52.09	1172	757		
B PSI 1	TRANSIT 5A	509	US	19 DEC	99.1	90.66	731	700		
B PSI 2		514	US	19 DEC	97.6	90.76	726	567		
B PSI 3		519	US	19 DEC	99.1	90.65	733	697		
B PSI 4		523	US	19 DEC	100.2	90.52	833	703		

1963 LAUNCHES

1963 03A		527	US	16 JAN	94.4	81.90	522	459	
1963 04A	SYNCOM 1	553	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED				
1963 04B	ROCKET BODY	532	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED				
1963 05A		533	US	19 FEB	97.7	100.47	795	501	
1963 05B		534	US	19 FEB	97.7	100.47	797	501	
1963 05C		535	US	19 FEB	97.8	100.49	744	469	
1963 05D		536	US	19 FEB	98.3	100.47	845	512	
1963 08B		566	USSR	2 APR	BARYCENTRIC ORBIT				
1963 09A	EXPLORER 17	564	US	3 APR	93.7	57.62	669	240	
1963 13A	TELSTAR 2	573	US	7 MAY	225.3	42.77	10812	960	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLIN- ATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1963 LAUNCHES (CONT'D)									
1963 13B	ROCKET BODY	575	US	7 MAY	225.1	42.76	10795	960	
1963 14A		574	US	9 MAY	166.4	87.38	3670	3621	
1963 14B		579	US	9 MAY	166.4	87.00	4198	3094	
1963 14C		608	US	9 MAY	166.4	87.34	3686	3605	
1963 14D		589	US	9 MAY	CURRENT ELEMENTS NOT MAINTAINED				
1963 14E		602	US	9 MAY	166.1	87.33	3652	3610	
1963 14F		628	US	9 MAY	166.8	87.34	3668	3654	
1963 14G		629	US	9 MAY	166.4	87.34	3701	3589	
1963 14H		702	US	9 MAY	166.4	87.32	3679	3611	
1963 22A		594	US	16 JUN	99.7	90.01	758	732	\$150\$400
1963 22B		603	US	16 JUN	99.7	90.01	759	731	
1963 22C		610	US	16 JUN	101.2	90.22	887	746	
1963 22D		611	US	16 JUN	98.1	89.84	771	566	
1963 24A	TIROS 7	604	US	19 JUN	97.4	58.27	645	626	\$136.233\$136.924
1963 24B	ROCKET BODY	605	US	19 JUN	97.3	58.26	636	626	
1963 24C	METAL OBJECT	606	US	19 JUN	97.9	58.37	681	632	
1963 24D	METAL OBJECT	607	US	19 JUN	96.9	58.09	642	575	
1963 25B		614	US	27 JUN	132.1	82.12	4093	340	
1963 26A	RESEARCH SATELLITE FOR GEOPHYSICS	612	US	28 JUN	102.0	49.76	1295	412	
1963 27A		613	US	29 JUN	94.6	82.33	523	481	
1963 30A		622	US	19 JUL	167.8	88.47	3733	3672	
1963 30B		635	US	19 JUL	167.0	89.48	4014	3299	
1963 30C		630	US	19 JUL	167.5	88.43	3721	3655	
1963 30D		624	US	19 JUL	167.	88.06	4461	2924	
1963 30E		631	US	19 JUL	168.3	88.43	3781	3658	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APQCE NM.</u>	<u>PERIGEE NM.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1963 LAUNCHES (CONT'D)									
1963 31A	SYNCOM 2	634	US	26 JUL	1436.0	31.78	35810	35759	\$136.467\$136.980 \$1814.069 \$1815.794 \$1820.177
1963 31B	ROCKET BODY	625	US	26 JUL	CURRENT ELEMENTS NOT MAINTAINED				
1963 38A		669	US	28 SEP	107.1	89.91	1114	1073	
1963 38B		670	US	28 SEP	107.4	89.91	1136	1076	
1963 38C		671	US	28 SEP	107.3	89.91	1141	1068	
1963 38D		672	US	28 SEP	107.3	89.92	1136	1073	
1963 38E		745	US	28 SEP	107.1	89.93	1112	1074	
1963 39A		674	US	17 OCT	6481.3	37.86	116496	101049	
1963 39B		675	US	17 OCT	CURRENT ELEMENTS NOT MAINTAINED				
1963 39C		692	US	17 OCT	6512.3	36.76	115295	102986	
1963 43A		683	USSR	1 NOV	102.3	58.92	1397	334	
1963 43B	POLYOT 1	684	USSR	1 NOV	99.1	58.67	1103	323	
1963 43C		685	USSR	1 NOV	92.7	58.96	531	275	
1963 43D		686	USSR	1 NOV	99.0	59.89	1066	340	
1963 46A		693	US	27 NOV	5610.7	35.20	192042	4385	
1963 47A	EXPLORER 18 CENTAUR 2	694	US	27 NOV	107.8	30.36	1772	475	
1963 47B		696	US	27 NOV	107.2	30.04	1618	576	
1963 47C		697	US	27 NOV	107.5	30.05	1636	578	
1963 47D		698	US	27 NOV	108.0	29.91	1655	512	
1963 47E		699	US	27 NOV	108.6	30.45	1747	575	
1963 47F		700	US	27 NOV	108.6	30.46	1749	576	
1963 47G		701	US	27 NOV	107.8	29.99	1644	605	
1963 47H		739	US	27 NOV	105.9	30.41	1583	486	
1963 49A		703	US	5 DEC	106.8	89.94	1089	1071	
1963 49B		704	US	5 DEC	107.1	89.95	1119	1071	\$150\$400

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1963 LAUNCHES (CONT'D)									
1963 49C		705	US	5 DEC	107.1	89.95	1118	1070	
1963 49D		706	US	5 DEC	107.1	89.97	1122	1061	
1963 49E		715	US	5 DEC	107.1	89.98	1117	1069	
1963 49F		753	US	5 DEC	107.1	89.96	1115	1074	
1963 53A	EXPLORER 19	714	US	19 DEC	115.2	78.69	2306	623	
1963 53B		721	US	19 DEC	115.8	78.61	2400	591	
1963 53C		722	US	19 DEC	115.8	78.63	2382	601	
1963 53D		723	US	19 DEC	115.8	78.62	2390	599	
1963 53E		724	US	19 DEC	115.9	78.70	2386	609	
1963 53F		725	US	19 DEC	115.8	78.62	2374	608	
1963 53G		726	US	19 DEC	115.8	78.58	2394	589	
1963 53H		732	US	19 DEC	115.8	78.61	2388	597	
1963 54A	TIROS 8	716	US	21 DEC	99.4	58.53	756	701	\$136.231\$136.924
1963 54B		717	US	21 DEC	99.3	58.53	751	698	
1963 54C		720	US	21 DEC	101.1	58.51	925	694	
1963 54D		736	US	21 DEC	97.7	58.51	708	587	
1964 LAUNCHES									
1964 01A		727	US	11 JAN	103.4	69.94	933	912	
1964 01B	GGSE	728	US	11 JAN	103.4	69.92	933	913	
1964 01C	EGRS 1	729	US	11 JAN	103.4	69.92	933	912	136.805
1964 01D	SOLAR RAD.	730	US	11 JAN	103.5	69.93	934	912	136.886
1964 01E		731	US	11 JAN	103.5	69.93	935	911	
1964 02A		733	US	19 JAN	101.3	99.09	851	790	
1964 02B		734	US	19 JAN	101.3	99.10	833	806	
1964 02C		735	US	19 JAN	101.3	99.10	836	807	
1964 03A	RELAY 2	737	US	21 JAN	194.7	46.33	7418	2081	136.620\$136.142

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCL- NATION</u>	<u>APOGEE KM</u>	<u>PERIGEE KM</u>	<u>TRANSMITTING FREQ (MC/S)</u>
1964 LAUNCHES (CONT'D)									
1964 03B		738	US	21 JAN	194.8	46.31	7429	2076	
1964 04A	ECHO 2	740	US	25 JAN	108.2	81.50	1310	979	136.019;136.170
1964 04B		741	US	25 JAN	108.9	81.51	1310	1045	
1964 04C		742	US	25 JAN	108.8	81.49	1308	1041	
1964 04D		743	US	25 JAN	108.8	81.54	1312	1036	
1964 04E		749	US	25 JAN	95.1	81.56	758	283	
1964 05A	SATURN 5	744	US	25 JAN	92.3	31.44	520	244	
1964 06A	ELEKTRON 1	746	USSR	30 JAN	169.3	60.95	7099	417	
1964 06B	ELEKTRON 2	748	USSR	30 JAN	1356.3	58.53	67008	1413	
1964 06C		750	USSR	30 JAN	168.0	60.97	7001	410	
1964 06D		751	USSR	30 JAN	1384.1	58.67	68071	1456	
1964 11A		759	US	28 FEB	94.6	82.07	507	491	
1964 11C		761	US	28 FEB	91.4	82.07	333	333	
1964 15A	ARIEL 2	771	US/UK	27 MAR	99.8	51.71	1211	287	136.557
1964 15B		775	US	27 MAR	99.1	51.69	1141	292	
1964 15C		847	US	27 MAR	103.4	51.39	1465	372	
1964 16D		785	USSR	2 APR	HELIOCENTRIC ORBIT				
1964 19B		784	USSR	12 APR	91.4	58.08	402	287	
1964 26A	POLYOT 2	801	US	4 MAY	103.1	90.50	947	864	\$150\$400
1964 26B		805	US	4 MAY	103.9	90.21	978	906	
1964 26C		806	US	4 MAY	102.3	90.86	952	785	
1964 26D		809	US	4 MAY	103.1	90.51	951	860	
1964 31A		812	US	18 MAY	101.6	99.76	845	823	
1964 31B		813	US	18 MAY	101.6	99.76	847	824	
1964 31C		815	US	18 MAY	101.6	99.78	846	822	
1964 35A		824	US	2 JUN	94.8	82.08	528	495	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1964 LAUNCHES (CONT'D)									
1964 38A	ELECTRON 3	829	USSR	10 JUL	168.1	60.87	7021	404	
1964 38B	ELECTRON 4	830	USSR	10 JUL	1313.8	59.19	65776	942	
1964 38C		831	USSR	10 JUL	168.4	60.83	7043	406	
1964 38D		832	USSR	10 JUL	1341.3	59.33	66877	944	
1964 40A		836	US	17 JUL	6024.8	38.83	104200	102402	
1964 40B		837	US	17 JUL	6004.3	40.64	113306	92798	
1964 40C		838	US	17 JUL	2349.0	38.30	103990	319	
1964 41B		843	US	28 JUL	BARYCENTRIC ORBIT		3669	269	\$136.470\$136.980
1964 45B		851	US	14 AUG	126.5	95.68	35792	35784	\$1820.177\$1815.794
1964 47A	SYNCOM 3	858	US	19 AUG	1436.2	.10			\$1814.931
CURRENT ELEMENTS NOT MAINTAINED									
1964 47B		862	US	19 AUG	714.4	66.06	39376	790	
1964 49D	COSMOS 41	869	USSR	22 AUG	718.3	65.95	39856	525	
1964 49E		898	USSR	22 AUG	93.3	49.02	652	210	
1964 50A	COSMOS 42	864	USSR	22 AUG	93.3	48.94	650	216	
1964 50C	COSMOS 43	867	USSR	22 AUG	93.3	79.92	1023	867	\$136.326\$136.350
1964 51A	EXPLORER 20	870	US	25 AUG	103.9				\$136.680
1964 51B		871	US	25 AUG	103.9	79.91	1017	867	
1964 51C		873	US	25 AUG	103.4	79.85	993	849	
1964 51D		874	US	25 AUG	103.4	79.83	1049	794	
1964 51E		875	US	25 AUG	103.4	79.83	1066	774	
1964 52A	NIMBUS 1	872	US	28 AUG	98.3	98.68	932	426	
1964 52B		878	US	28 AUG	98.3	98.67	934	426	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1964 LAUNCHES (CONT'D)									
1964 53A	COSMOS 44	876	USSR	28 AUG	99.5	65.07	873	599	
1964 53B		877	USSR	28 AUG	99.6	65.12	812	666	
1964 54A	OGO 1	879	US	5 SEP	3841.9	40.72	144824	4930	\$136.200\$400.250 \$400.850 136.147
1964 60A	EXPLORER 21	889	US	4 OCT	2080.3	33.72	4288	917	
1964 63A		893	US	6 OCT	106.3	89.92	1076	1039	
1964 63B		897	US	6 OCT	106.6	89.91	1086	1054	
1964 63C		900	US	6 OCT	106.6	89.93	1087	1051	
1964 63D		901	US	6 OCT	106.6	89.92	1088	1056	
1964 63E		902	US	6 OCT	106.6	89.92	1086	1056	
1964 63F		903	US	6 OCT	106.6	89.91	1093	1050	
1964 64A	EXPLORER 22	899	US	10 OCT	104.8	79.71	1081	888	\$136.171\$162\$324 \$20\$40\$41\$360
1964 64B		907	US	10 OCT	104.7	79.72	1080	888	
1964 64C		976	US	10 OCT	104.1	79.37	1063	840	
1964 64D		977	US	10 OCT	105.5	80.10	1123	914	
1964 72A		922	US	4 NOV	94.9	82.05	522	511	
1964 72B		925	US	4 NOV	94.8	82.05	518	503	
1964 72C		926	US	4 NOV	94.4	82.06	492	487	
1964 72D		927	US	4 NOV	94.4	82.03	494	487	
1964 73A	MARINER 3	923	US	5 NOV	HELIOCENTRIC ORBIT				
1964 74A	EXPLORER 23	924	US	6 NOV	99.2	51.99	978	463	\$136.078\$136.861 136.709
1964 76A	EXPLORER 24	931	US	21 NOV	115.6	81.43	2400	572	
1964 76B	EXPLORER 25	932	US	21 NOV	116.2	81.39	2491	532	\$136.292\$136.860
1964 76C		933	US	21 NOV	116.2	81.35	2492	534	
1964 76D		934	US	21 NOV	116.1	81.33	2470	540	
1964 76E		935	US	21 NOV	116.3	81.41	2491	536	

OBJECT	CODE NAME	CATALOGUE NUMBER	OBJECTS IN ORBIT				PERIGEE Km.	TRANSMITTING FREQ. (MC/S)	
			SOURCE	LAUNCH	PERIOD MINUTES	INCL- NATION			APOGEE Km.
1964 LAUNCHES (CONT'D)									
1964 76F		936	US	21 NOV	115.7	81.32	2418	556	
1964 76G		937	US	21 NOV	116.3	81.35	2480	556	
1964 76H		939	US	21 NOV	115.3	81.35	2373	560	
1964 76I		940	US	21 NOV	116.1	81.44	2388	622	
1964 76J		941	US	21 NOV	116.2	81.32	2468	557	
1964 76K		960	US	21 NOV	116.4	81.38	2450	587	
1964 76L		1411	US	21 NOV	116.4	81.33	2486	551	
1964 77A	MARINER 4	938	US	28 NOV	HELIOCENTRIC ORBIT				
1964 77B		942	US	28 NOV	HELIOCENTRIC ORBIT				
1964 78C	ZOND 2	945	USSR	30 NOV	HELIOCENTRIC ORBIT				
1964 80A	COSMOS 51	947	USSR	9 DEC	90.7	48.80	397	218	
1964 83A		953	US	13 DEC	106.0	89.99	1064	1021	
1964 83B		956	US	13 DEC	106.3	90.00	1078	1035	
1964 83C		959	US	13 DEC	106.3	89.99	1083	1032	136.650\$162\$320
1964 83D		965	US	13 DEC	106.3	89.99	1084	1031	\$150\$400
1964 83E		966	US	13 DEC	106.3	89.99	1085	1029	
1964 83F		967	US	13 DEC	106.3	89.99	1083	1030	
1964 83G		1099	US	13 DEC	106.3	89.99	1085	1030	
1964 83H		1528	US	13 DEC	106.3	89.98	1089	1026	
1964 86A	EXPLORER 26	963	US	21 DEC	453.4	20.16	26011	245	136.273
1965 LAUNCHES									
1965 03A		973	US	19 JAN	97.6	98.73	829	464	
1965 04A	TIROS 9	978	US	22 JAN	119.2	96.41	2585	703	\$136.234\$136.918
1965 04B		979	US	22 JAN	119.3	96.42	2497	703	
1965 04C		1312	US	22 JAN	118.0	96.34	2514	675	
1965 04D		1313	US	22 JAN	120.4	96.42	2667	731	
1965 06A	COSMOS 53	983	USSR	30 JAN	96.8	48.75	987	220	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1965 LAUNCHES (CONT 'D)									
1965 06B		984	USSR	30 JAN	95.1	48.75	824	220	
1965 07A	ORB.SOL.OBS.2	987	US	3 FEB	96.5	32.85	628	548	136.713
1965 07B		988	US	3 FEB	96.5	32.86	635	548	
1965 08A		1000	US	11 FEB	145.6	32.12	2799	2779	
1965 08B		1001	US	11 FEB	145.4	32.12	2794	2762	
1965 08C		1002	US	11 FEB	145.7	32.12	2808	2777	
1965 09A	PEGASUS 1	1085	US	16 FEB	97.0	31.75	729	497	\$136.410;136.890
1965 09B		1088	US	16 FEB	97.1	31.75	730	502	
1965 10B		1087	US	17 FEB	BARYCENTRIC ORBIT				
1965 11A	COSMOS 54	1089	USSR	21 FEB	104.2	56.01	1654	262	
1965 11B	COSMOS 55	1090	USSR	21 FEB	104.4	56.02	1667	263	
1965 11C	COSMOS 56	1091	USSR	21 FEB	103.5	56.03	1587	260	
1965 11D		1092	USSR	21 FEB	105.9	56.07	1796	273	
1965 11E		1094	USSR	21 FEB	100.2	56.00	1274	256	
1965 14A	COSMOS 58	1097	USSR	26 FEB	96.8	65.04	640	569	
1965 14B		1098	USSR	26 FEB	96.9	65.08	697	521	
1965 16A	GREB	1271	US	9 MAR	103.5	70.08	940	910	
1965 16B	GRAVITY GRADIENT II	1244	US	9 MAR	103.5	70.09	941	909	
1965 16C	GRAVITY GRADIENT III	1292	US	9 MAR	103.5	70.09	940	910	136.766
1965 16D	SOLAR RAD.	1291	US	9 MAR	103.5	70.08	940	910	136.800
1965 16E	EGRS III	1208	US	9 MAR	103.5	70.10	938	910	136.840
1965 16F	OSCAR III	1293	US	9 MAR	103.5	70.09	942	907	
1965 16G	SURCAL	1310	US	9 MAR	103.5	70.10	942	905	
1965 16H	DODECAHEDRON	1272	US	9 MAR	103.5	70.10	944	905	
1965 16J	ROCKET BODY	1245	US	9 MAR	103.5	70.11	941	906	
1965 17B	EGRS II	1250	US	11 MAR	97.6	89.98	997	290	
1965 17C		1228	US	11 MAR	97.4	89.98	939	281	
1965 17D		1248	US	11 MAR	97.4	90.00	986	288	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1965 LAUNCHES (CONT'D)									
1965 17H		1323	US	11 MAR	94.8	89.95	727	280	
1965 20A	COSMOS 61	1267	USSR	15 MAR	104.8	56.06	1657	264	
1965 20B	COSMOS 62	1268	USSR	15 MAR	104.2	56.08	1656	259	
1965 20C	COSMOS 63	1269	USSR	15 MAR	103.5	56.06	1588	260	
1965 20D		1270	USSR	15 MAR	102.8	56.14	1511	257	
1965 20E		1335	USSR	15 MAR	112.2	56.19	2057	596	
1965 20F		1336	USSR	15 MAR	106.4	56.16	1780	341	
1965 20G		1337	USSR	15 MAR	104.8	56.10	1616	324	
1965 20H		1338	USSR	15 MAR	106.6	56.25	1714	327	
1965 20J		1339	USSR	15 MAR	107.5	55.98	1763	456	
1965 20K		1340	USSR	15 MAR	105.1	56.12	1746	254	
1965 20L		1341	USSR	15 MAR	106.5	56.04	1796	336	
1965 20M		1342	USSR	15 MAR	107.6	56.12	1865	363	
1965 20N		1343	USSR	15 MAR	104.6	56.08	1638	304	
1965 20P		1344	USSR	15 MAR	105.8	56.14	1795	273	
1965 20Q		1345	USSR	15 MAR	108.8	56.04	1882	458	
1965 20R		1346	USSR	15 MAR	108.7	56.16	1920	417	
1965 20S		1347	USSR	15 MAR	109.5	56.17	1814	598	
1965 20T		1348	USSR	15 MAR	109.5	56.25	1934	471	
1965 20U		1349	USSR	15 MAR	108.4	56.14	1899	410	
1965 20V		1350	USSR	15 MAR	98.8	56.06	1087	297	
1965 20W		1351	USSR	15 MAR	109.1	56.00	1917	456	
1965 20X		1352	USSR	15 MAR	105.0	56.08	1709	280	
1965 20Y		1353	USSR	15 MAR	199.4	55.94	1178	275	
1965 20Z		1354	USSR	15 MAR	107.4	56.04	1823	388	
1965 20AA		1355	USSR	15 MAR	103.8	56.14	1617	259	
1965 20AC		1370	USSR	15 MAR	109.7	56.12	1841	584	
1965 20AD		1371	USSR	15 MAR	109.3	55.90	1841	552	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1965 LAUNCHES (CONT'D)									
1965 20AE		1372	USSR	15 MAR	110.8	56.07	1938	590	
1965 20AF		1373	USSR	15 MAR	109.8	56.08	1977	462	
1965 20AG		1375	USSR	15 MAR	96.6	55.90	696	212	
1965 20AH		1392	USSR	15 MAR	110.2	55.99	1924	552	
1965 20AJ		1397	USSR	15 MAR	107.2	56.13	1801	391	
1965 20AK		1398	USSR	15 MAR	108.8	56.38	1950	394	
1965 20AL		1400	USSR	15 MAR	96.2	55.95	731	267	
1965 20AM		1401	USSR	15 MAR	101.4	56.15	1421	225	
1965 20AN		1402	USSR	15 MAR	104.7	56.08	1683	271	
1965 20AP		1403	USSR	15 MAR	98.7	55.97	1102	266	
1965 20AQ		1409	USSR	15 MAR	103.9	56.07	1574	305	
1965 20AR		1410	USSR	15 MAR	104.5	56.06	1654	287	
1965 20AS		1416	USSR	15 MAR	105.4	56.19	1740	288	
1965 20AW		1436	USSR	15 MAR	102.2	55.97	1476	230	
1965 20AX		1437	USSR	15 MAR	97.1	56.03	910	283	
1965 20AY		1419	USSR	15 MAR	108.3	56.06	1805	494	
1965 20AZ		1439	USSR	15 MAR	108.5	55.86	1864	449	
1965 20BA		1476	USSR	15 MAR	105.5	56.05	1717	307	
1965 20BB		1477	USSR	15 MAR	113.3	55.57	1908	847	
1965 20BC		1478	USSR	15 MAR	112.3	56.09	1954	712	
1965 20BD		1479	USSR	15 MAR	115.5	56.06	2107	853	
1965 20BE		1480	USSR	15 MAR	115.6	56.14	2151	812	
1965 20BF		1481	USSR	15 MAR	108.7	56.23	1856	480	
1965 20BG		1482	USSR	15 MAR	99.4	55.91	1210	209	
1965 20BH		1483	USSR	15 MAR	107.8	56.17	1847	360	
1965 20BJ		1484	USSR	15 MAR	107.5	56.13	1827	389	
1965 20BK		1485	USSR	15 MAR	107.1	55.93	1763	417	

OBJECT	CODE NAME	CATALOGUE NUMBER	OBJECTS IN ORBIT				INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
			SOURCE	LAUNCH	PERIOD MINUTES					
1965 LAUNCHES (CONT'D)										
1965 20BL		1486	USSR	15 MAR	106.0	56.04	1721	355		
1965 20BM		1487	USSR	15 MAR	105.9	56.02	1704	366		
1965 20BN		1488	USSR	15 MAR	105.1	56.11	1730	262		
1965 20BP		1489	USSR	15 MAR	104.0	56.07	1595	292		
1965 20BQ		1490	USSR	15 MAR	101.4	55.68	1348	273		
1965 20BR		1491	USSR	15 MAR	96.4	56.09	883	215		
1965 20BS		1492	USSR	15 MAR	98.6	55.99	1076	261		
1965 20BT		1493	USSR	15 MAR	104.5	56.18	1657	280		
1965 20BV		1495	USSR	15 MAR	98.6	55.86	1169	181		
1965 20BW		1496	USSR	15 MAR	103.6	56.01	1563	289		
1965 20BX		1497	USSR	15 MAR	105.7	55.86	1696	353		
1965 20BY		1498	USSR	15 MAR	101.9	56.05	1426	263		
1965 20BZ		1499	USSR	15 MAR	103.4	56.10	1589	295		
1965 20CA		1530	USSR	15 MAR	108.0	55.94	1869	402		
1965 20CB		1531	USSR	15 MAR	105.6	56.16	1716	323		
1965 20CC		1532	USSR	15 MAR	104.9	55.98	1685	294		
1965 20CD		1533	USSR	15 MAR	98.8	56.02	1155	235		
1965 20CE		1534	USSR	15 MAR	106.0	56.14	1795	291		
1965 20CF		1535	USSR	15 MAR	100.2	56.14	1250	269		
1965 20CG		1536	USSR	15 MAR	102.0	56.06	1430	277		
1965 20CH		1537	USSR	15 MAR	103.4	56.14	1594	233		
1965 20CJ		1538	USSR	15 MAR	107.5	56.12	1817	406		
1965 20CK		1539	USSR	15 MAR	103.5	56.12	1566	277		
1965 20CL		1540	USSR	15 MAR	106.8	56.14	1821	335		
1965 20CM		1541	USSR	15 MAR	101.6	56.08	1368	294		
1965 20CN		1542	USSR	15 MAR	103.7	56.11	1548	308		
1965 20CP		1543	USSR	15 MAR	98.1	55.83	1018	285		
1965 20CQ		1544	USSR	15 MAR	105.4	56.16	1709	315		
1965 20CR		1545	USSR	15 MAR	102.3	56.03	1439	283		
1965 20CS		1546	USSR	15 MAR	104.5	56.08	1616	318		
1965 20CT		1547	USSR	15 MAR	102.7	56.26	1461	296		
1965 20CU		1548	USSR	15 MAR	107.6	56.12	1831	401		

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1965 LAUNCHES (CONT'D)									
1965 20CV		1549	USSR	15 MAR	115.1	56.19	2139	781	
1965 20CW		1550	USSR	15 MAR	106.2	56.12	1796	8	
1965 20CX		1551	USSR	15 MAR	106.1	56.12	1784	304	
1965 20CY		1552	USSR	15 MAR	106.1	55.90	1752	338	
1965 20CZ		1553	USSR	15 MAR	102.9	55.96	1521	266	
1965 20DA		1554	USSR	15 MAR	104.1	56.11	1635	267	
1965 20DB		1555	USSR	15 MAR	106.6	56.00	1771	371	
1965 20DC		1556	USSR	15 MAR	105.3	56.21	1733	285	
1965 20DD		1557	USSR	15 MAR	110.0	56.13	1908	545	
1965 20DE		1558	USSR	15 MAR	107.1	56.16	1824	358	
1965 20DF		1559	USSR	15 MAR	105.1	56.09	1685	310	
1965 20DG		1560	USSR	15 MAR	98.4	55.99	957	285	
1965 20DH		1561	USSR	15 MAR	105.7	55.90	1710	339	
1965 20DJ		1562	USSR	15 MAR	99.1	56.12	1149	263	
1965 20DK		1563	USSR	15 MAR	105.9	56.14	1779	291	
1965 20DL		1564	USSR	15 MAR	109.5	56.15	1861	544	
1965 20DM		1565	USSR	15 MAR	104.3	56.06	1642	287	
1965 20DN		1566	USSR	15 MAR	105.9	56.13	1780	289	
1965 20DP		1567	USSR	15 MAR	109.9	55.72	1940	505	
1965 20DQ		1568	USSR	15 MAR	102.3	56.10	1460	268	
1965 20DR		1569	USSR	15 MAR	102.1	56.08	1426	281	
1965 21A		1273	US	18 MAR	97.5	99.01	759	526	
1965 21B		1288	US	18 MAR	95.1	99.20	578	471	
1965 21C		1289	US	18 MAR	97.6	99.01	760	526	
1965 21D		1290	US	18 MAR	94.3	99.08	528	431	
1965 21E		1376	US	18 MAR	96.4	98.98	658	525	
1965 21F		1463	US	18 MAR	98.6	99.02	865	525	
1965 23B		1298	US	21 MAR	BARYCENTRIC ORBIT				
1965 27A	EGRS IV	1314	US	3 APR	111.5	90.20	1318	1277	
1965 27B		1315	US	3 APR	111.4	90.20	1317	1272	
1965 27C		1316	US	3 APR	111.5	90.20	1313	1281	
1965 27D		1389	US	3 APR	111.5	90.19	1313	1282	
1965 27E		1399	US	3 APR	111.5	90.21	1312	1282	
1965 27F									

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1965 LAUNCHES (CONT'D)									
1965 28A	EARLY BIRD	131	US	6 APR	1437.3	.13	36596	35025	
1965 28B	ROCKET BODY	1318	US	6 APR	CURRENT	ELEMENTS	NOT MAINTAINED		
1965 30A	MOLNIA 1	1324	USSR	23 APR	720.7	65.15	39865	636	
1965 31B		1329	US	28 APR	95.1	95.21	551	500	
1965 31G		1357	US	28 APR	94.7	95.21	523	586	
1965 32A	EXPLORER 27	1328	US	29 APR	107.8	41.17	1315	937	\$137.740\$162\$324 \$20\$40\$41\$360
1965 32B		1358	US	29 APR	107.8	41.17	1315	936	
1965 34A		1359	US	6 MAY	157.0	32.14	3747	2776	
1965 34B		1360	US	6 MAY	309.9	32.10	14797	2785	
1965 34C		1361	US	6 MAY	145.6	32.13	2800	2775	
1965 38A		1377	US	20 MAY	100.0	98.62	962	558	
1965 38B		1378	US	20 MAY	100.0	98.62	966	555	
1965 38C		1379	US	20 MAY	99.9	98.65	955	559	
1965 38D		1380	US	20 MAY	99.4	98.76	906	553	
1965 38E		1460	US	20 MAY	101.0	98.66	1054	557	
1965 38F		1462	US	20 MAY	98.9	98.59	852	568	
1965 38G		1475	US	20 MAY	100.1	98.58	980	553	
1965 39A	PEGASUS 2	1381	US	25 MAY	97.2	31.75	735	507	\$135.410;136.889
1965 39B	ROCKET BODY	1385	US	25 MAY	97.2	31.75	737	510	
1965 42A	EXPLORER 28	1388	US	29 MAY	8558.8	33.86	264247	196	136.125
1965 44A	LUNIK 6	1398	USSR	8 JUN	HELIOCENTRIC ORBIT				
1965 48A		1420	US	24 JUN	106.9	90.00	1146	1025	
1965 48B		1425	US	24 JUN	106.9	90.00	1147	1021	
1965 48C		1428	US	24 JUN	106.6	90.00	1116	1024	
1965 48D		1435	US	24 JUN	106.9	90.00	1153	1019	
1965 50A		1422	US	25 JUN	94.6	107.64	508	497	
1965 50D		1427	US	25 JUN	94.2	107.65	477	467	
1965 51A	TIROS 10	1430	US	2 JUL	100.7	98.62	840	742	\$136.232\$136.924
1965 51B		1433	US	2 JUL	100.7	98.65	844	743	
1965 51C		1440	US	2 JUL	99.3	98.51	841	615	
1965 51D		1529	US	2 JUL	102.0	98.74	883	829	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCL- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING REQ. (MC/S)</u>
1965 LAUNCHES (CONT'D)									
1965 52A	COSMOS 70	1431	USSR	2 JUL	98.0	48.76	1094	225	
1965 52B		1432	USSR	2 JUL	97.6	48.75	1052	231	
1965 53A	COSMOS 71	1441	USSR	16 JUL	95.3	56.05	545	518	
1965 53B	COSMOS 72	1442	USSR	16 JUL	95.9	56.06	584	542	
1965 53C	COSMOS 73	1443	USSR	16 JUL	95.6	56.06	555	539	
1965 53D	COSMOS 74	1444	USSR	16 JUL	96.2	56.04	513	542	
1965 53E	COSMOS 75	1445	USSR	16 JUL	96.5	56.04	641	544	
1965 53F		1448	USSR	16 JUL	96.6	56.08	644	546	
1965 53G		1449	USSR	16 JUL	95.2	56.07	545	508	
1965 53H		1473	USSR	16 JUL	96.7	56.03	659	543	
1965 54A	PROTON 1	1466	USSR	16 JUL	90.9	63.45	450	175	
1965 54B		1451	USSR	16 JUL	89.7	63.45	339	163	
1965 55A		1447	US	17 JUL	94.4	70.18	514	470	
1965 55B		1452	US	17 JUL	94.3	70.17	503	464	
1965 55C		1455	US	17 JUL	94.5	70.17	515	473	
1965 56A	ZOND 3	1454	USSR	18 JUL	HELIOCENTRIC ORBIT				
1965 58A		1458	US	20 JUL	6679.0	35.34	115839	106367	
1965 58B		1459	US	20 JUL	6712.7	34.95	121281	101715	
1965 53C		1460	US	20 JUL	2610.6	34.39	112694	153	136.768
1965 59A		1464	USSR	23 JUL	92.1	48.79	592	256	
1965 59B		1465	USSR	23 JUL	91.8	48.77	466	255	
1965 60A	PEGASUS 3	1467	US	30 JUL	95.2	28.87	535	515	
1965 60B		1468	US	30 JUL	95.2	28.87	534	519	
1965 62B		1472	US	3 AUG	94.7	107.35	510	504	
1965 63A	EGRS 5	1402	US	10 AUG	122.2	69.25	2426	1136	
1965 63B		1506	US	10 AUG	122.2	69.25	2429	1133	
1965 64A		1503	US	11 AUG	CURRENT ELEMENTS NOT MAINTAINED				
1965 65A	CENTAUR 6	1504	US	13 AUG	108.1	90.03	1189	1091	
1965 65B		1508	US	13 AUG	107.8	90.03	1160	1090	
1965 65C		1510	US	13 AUG	108.1	90.03	1189	1090	
1965 65D		1511	US	13 AUG	108.1	90.03	1190	1090	
1965 65E		1512	US	13 AUG	108.1	90.02	1193	1088	
1965 65F		1514	US	13 AUG	108.1	90.04	1192	1092	
									\$136.410;136.590

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1965 LAUNCHES (CONT 'D)									
1965 65G		1515	US	13 AUG	108.1	90.03	1191	1086	
1965 65H		1520	US	13 AUG	108.1	90.02	1195	1087	
1965 65J		1521	US	13 AUG	108.1	90.06	1195	1086	
1965 65K		1522	US	13 AUG	108.1	90.03	1194	1089	
1965 65L		1577	US	13 AUG	108.1	90.01	1192	1090	
1965 67A		1513	US	17 AUG	90.7	70.02	405	206	
1965 70A	COSMOS 80	1570	USSR	3 SEP	115.0	56.05	1552	1356	
1965 70B	COSMOS 81	1571	USSR	3 SEP	115.3	56.06	1557	1385	
1965 70C	COSMOS 82	1572	USSR	3 SEP	115.7	56.04	1562	1410	
1965 70D	COSMOS 83	1573	USSR	3 SEP	116.1	56.04	1569	1438	
1965 70E	COSMOS 84	1574	USSR	3 SEP	116.4	56.05	1576	1465	
1965 70F		1575	USSR	3 SEP	114.6	56.12	1512	1362	
1965 71A		1578	USSR	9 SEP	89.4	64.73	288	203	
1965 72A		1580	US	10 SEP	101.9	98.65	1057	646	
1965 72B		1581	US	10 SEP	101.6	98.72	1012	661	
1965 72C		1582	US	10 SEP	102.0	98.64	1059	651	
1965 72D		1583	US	10 SEP	101.9	98.66	1052	653	

DECAYED OBJECTS

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
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PLEASE ADD THE FOLLOWING TO THE DECAYED OBJECTS LIST:

1964 84A	SAN MARCO 1	957	ITALY	DEC 15	13 SEPT 65
1965 17F		1249	US	MAR 11	10 SEPT 65
1965 20AT		1417	USSR	MAR 14	9 SEPT 65
1965 20AV		1419	USSR	MAR 14	1 SEPT 65
1965 20BU		1494	USSR	MAR 14	4 SEPT 65
1965 66B		1507	USSR	AUG 14	3 SEPT 65
1965 69A	COSMOS 79	1523	USSR	AUG 25	2 SEPT 65
1965 69B		1524	USSR	AUG 25	7 SEPT 65

* APHELION PERIHELION IN ASTRONOMICAL UNITS, INCLINATION TO ECLIPTIC.
 ** TWO HUNDRED AND SIX METAL OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED
 WITH 1961 OMICRON 1 AND 1961 OMICRON 2. OBJECTS OF THIS SERIES THAT HAVE DECAYED
 CAN BE FOUND IN THE DECAYED OBJECTS LIST.
 \$ TRANSMITTING ON COMMAND ONLY.
 & TRANSMITTING WHEN IN SUNLIGHT ONLY.
 # NO CATALOGUE NUMBER ASSIGNED.